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SECTOR 12—CHART INFORMATION

SECTOR 12

WEST COAST OF MADAGASCAR—CAP SAINT -ANDRE TO CAP SAINTE-MARIE

Plan.—This sector describes the W coast of Madagascar from Cap Saint-Andre S to Cap Sainte-Marie (25° 35'S., 45° 08'E.), a distance of nearly 600 miles; also described are the off-lying islands of Ile Juan de Nova and Ile Europa.

Nosy Juan de Nova

12.1 Nosy Juan de Nova (Ile Juan de Nova) (17° 03'S., 42° 42'E.) is low, sandy, and covered with trees, mainly casuarina and coconut. An abandoned meteorological station with a white roof stands on the SW side of the island.

A light is shown from the W side of the island. An aero radiobeacon stands near the N coast of the island midway between Pointe Quest and Pointe Est. There is a ruined wharf, marked by a white mast, 0.2 mile NW of the beacon.

Tides—Curr ents.—The currents in the vicinity of Nosy Juan de Nova are strong and irregular, and extreme caution must be exercised.

Anchorage.—Anchorage can be obtained 2 miles NE of the wharf, in about 15m, sand and coral patches, with the flagstaff bearing 215°, distant 2.2 miles. The anchorage has depths over 10m within a radius of 0.2 mile from the anchorage. There is also anchorage 2 miles N of the wharf in a depth of about 8.5m. A small vessel can obtain good anchorage, in 10m, with the flagstaff bearing 194°, distant 1.2 miles.

Before letting go the anchor, it is advisable to look carefully to make sure the anchor will not come to rest on a coral head; these heads can usually be seen.

Directions.—The E and W ends of Nosy Juan de Nova should not be approached closer than 4 miles.

Vessels should approach the anchorages from the N, and only during the hours of daylight.

Caution.—It has been reported that Nosy Juan de Nova lies 3.7 miles of its charted position. The surrounding reef extends farther E than shown.

Ile Europa

12.2 Ile Europa (22° 20'S., 40° 21'E.), which is very difficult to distinguish at night, is composed chiefly of sand, with low hummocks in places. It is partly covered with bushes, and there are some trees, attaining an elevation of 24.4m. The W side of the island is rocky, the E side consists of low steep cliffs, the S side is low, and the limits of its fringing reef are little known; as it is usually a lee shore, it should be given a wide berth. An aero radiobeacon stands near the W side of the island. A stranded wreck lies on the SE point of the island. Pointe Nord-Est, the NE extremity of Ile Europa, lies on the E side of the entrance of a lagoon; there is a conspicuous hummock on the point.

Tides—Curr ents.—In the vicinity of Ile Europa, the current is variable in direction and rate; frequent observations are necessary to check the vessel's position.

Anchorage.—There is no secure anchorage off Ile Europa. It is possible to anchor near the edge of the reef fringing the N coast of the island, sheltered from a S swell, in 20m, but there is no room to swing in the event of a shift of wind, and the holding ground is very poor. This anchorage is approached with the flagstaff bearing 180°. A vessel has anchored, in 15m, with Pointe Nord-Est bearing 122°, distant 0.5 mile. These anchorages are precarious, and a vessel using them should be prepared to weigh anchor at any time.

Cap Saint-Andre to Maintirano

12.3 Cap Saint-Andre (Tanjona Vilanandro) (16° 12'S., 44° 28'E.), the NW extremity of Madagascar, consists of level sandy ground, covered with palm trees and other vegetation, and terminating in a low sandy point. The cape is very difficult to identify. Care must be taken not to mistake the isolated casuarina tree S of the cape for the clump of casuarina trees S of the village of Bevilana.

The W coast of Madagascar between Cap Saint-Andre and Cap Sainte-Marie, the S extremity of the island, has few harbors and is sparsely populated; the only ports are Maintirano, Morondava, Morombe, and Toliara.

Tides—Curr ents.—The current most frequently sets NE off Banc de Parcel. In the neighborhood of Nosy Vao, the currents are variable; eddies are produced by the configuration of the shoals.

Between Ile Chesterfield and Cap Saint Andre, the flood tidal current sets S and the ebb tidal current sets N. Occasionally, an ocean current will overcome the tidal current, and the resultant flow will be steady in one direction for some time.

Observations of the currents made in July, August, and September between Ile Chesterfield and Beravina showed a maximum rate of 1.25 knots; the ebb currents set in a direction with a W component and the flood currents set in a direction with an E component. The currents attained a maximum rate 4 hours after HW and 3 hours before HW.

Tidal currents between and around the Iles Barren are strong and must be guarded against. North of Pointe Barrow, there does not appear to be much current. A British naval vessel experienced a current, with a rate of 1 knot, setting towards the land in positions E of Pointe Barrow and off the outlet of the Riviere Menarandra, which flows into the sea over Banc del'Etoile. The outlet of this river is NW of Cap Sainte Marie.

Cap Saint-Andre is the point of separation of the winds; the prevailing wind N of the cape is NW, and that S of the cape is SW. When these directions are reversed, it is found that stormy weather follows. In the vicinity of Nosy Hao, the flood current sets NNW at a rate of 0.5 knot.

In a position N of Baie De Fanemotra, a S current is often produced by N winds. As a rule, the current follows the direction of the wind, and at times even precedes its changes.

The tidal currents are fairly strong in the vicinity of Nosi Ve. The flood current sets NNW and the ebb current sets SSE. They attain a maximum rate of 1 knot, about 3 hours before and 3 hours after HW.

Caution.—Vessels should not remain in the vicinity of Cap Saint-Andre during the season of squalls, from November to April, as they will be exposed to great danger of a bank studded with shoal heads. The sea is heavy and the holding ground of coral is poor.

Vessels rounding Cap Saint-Andre should not approach it closer than 15 miles. Those approaching from the S should not alter course to round the cape until the village of Bevilana bears more than 113°. A sunken landing craft containing explosives lies 9 miles WNW of Cap Saint-Andre.

Banc de Goraka Pracel, the continuation of the coastal bank, extends S from Cap Saint-Andre to approximately 19° S. Farther S, where the coastal bank is narrower, the depths are too irregular for soundings to indicate proximity to the coast; caution is necessary when approaching the bank, as many small reefs lie on it up to 30 miles offshore.

12.4 The Mozambique Channel, which separates the W coast of Madagascar from the E coast of Africa is about 225 miles wide at its narrowest part W of Cap Saint-Andre. Depths in the canal are usually great outside the coastal banks.

Caution.—The partially submerged dangerous wreck of the drill rig Gatto Selvatico lies in position 15° 53'S, 44° 31'E. The wreck is reported (1977) to be unmarked by navigational aids.

Bassas da India (Basse de Judie) (21° 27'S., 39° 41'E.) is a coral atoll, about 6 miles in diameter, enclosing a shallow lagoon. It rises steeply from ocean depths and mostly dries. The sea breaks heavily over the reef and can be seen in clear weather.

In 1974, two wrecks, ships of 2,500 grt, lay stranded on the SW side of the reef.

Small rocks, 2.1m to 3m high, lie on the N and E sides of the atoll; the W and S sides dry 1.2m. The reef is completely covered from 3 hours before to 3 hours after HW. There is a narrow boat passage at LW on the N side of the reef.

Currents in the vicinity of the atoll appear to be strong; ships should not approach Bassas da India without a good fix.

Caution.—It has been reported (1993) that the W and SW extremities of the reef and the two stranded wrecks lie about 2.5 miles SW of their charted positions.

Banc de Pracel (Banc de Toraka) extends from a position abreast Cap Saint-Andre to 19° 00'S. The width of the area has not been determined, but dangers as far as 30 miles offshore have been reported.

A vessel that spent 5 months in the vicinity of Banc de Pracel reported that dangers were seldom met, with where the color of the water suggested their presence; sounding constantly revealed dangers that the lookout had not seen.

Unless vessels proceeding through the Mozambique Channel are bound to some part of the coast within the bank, they should keep outside it altogether. If soundings show that they are over its W or outer edge, they should at once haul to the W into deeper water.

A wreck, dangerous to navigation, was reported to lie 4.2 miles W of Vulture Rock (16° 13'S., 44° 20'E.).

12.5 Ile Chesterfield (16° 19'S., 43° 58'E.) is a reddish bank of sand, with a chain of dark rocks on its W part and a large black rock, 0.3m high, in its middle. It should be given a wide berth, particularly at night.

Vessels can anchor in a position about 1 mile NW of Ile Chesterfield. The depths are 15 to 18m, and the bottom of sand and shells is moderately good holding ground.

Nosy Vao (17° 29'S., 43° 45'E.), a low and dark-colored islet, has a beach of white sand, and has been seen in clear weather at a distance of 10 miles. Anchorage can be taken in a position N of Nosy Vao, in 14m; a vessel anchored there is well-sheltered from winds from the S and W.

The **Riviere Marotondro** (16° 47'S, 44° 20'E) has cliffs located 5 miles N of its mouth; the upper part of the cliffs is red while the lower part is white.

Anchorage, with good holding ground, is available all along the coast, between Cap Saint-Andre and Tambohorano (17° 30'S., 43° 57'E.), but the presence of off-lying dangers makes approach difficult.

Iles Barren lie on the S part of Banc de Pracel. All the islands appear as a strip of white sand, surmounted by a dark knoll, and can be seen at a distance of 10 to 12 miles.

The part of Banc de Pracel, on which Iles Barren, lie is considered very dangerous; many of the shoals on it do not show in good weather.

Anchorage can be taken off **Nosy Maroantaly** (18° 25'S, 43° 55'E), with the NW extremity of Nosy Maroantaly bearing 219 and the SW extremity of Recif Croissant (Hrandriaka Croissant) (18° 22'S., 43° 55'E.) bearing 335°. The depth in this position is 13m, and the bottom, of mud, is good holding ground. This anchorage is always to be preferred in bad weather to the open roadstead off Maintirano.

12.6 Nosy Androta (18° 29'S., 43° 48'E.) has at its highest part a clump of casuarina trees, with their tops at an elevation of 35m, that have often been mistaken for a vessel under sail.

Nosy Lava (18° 35'S., 43° 45'E.) is the southernmost and largest of the Iles Barren. Anchorage can be taken off Nosy Lava. In the recommended position, the E extremity of the island bears 180° and the N extremity of Nosy Andrano (18° 33'S., 43° 51'E.) bears 294°. The depth here is 13m, sand.

The Riviere Sambao flows into the sea on either side of Nosy Voalavo. Vessels can obtain anchorage about 5 miles W of the mouth of the Riviere Sambao in 11m.

Helodrano Ankoritiky (Baie de Koraraika) is entered between a point at the mouth of Riviere Manabbo Maty (17° 36'S., 43° 56'E.) and Cap Bepoaka (Tanjona Mandatsakoro).

Anchorage can be obtained in Baie de Koraraika NW of Cap Bepoaka.

Directions.—There are two principal channels by which a vessel may pass through Iles Barren.

The N channel lies SE of Boursaint Shoal and NW of Harandriaka Lockwood (18° 32'S., 43° 46'E.) and Nosy Androta; the breakers over Harandriaka Lockwood assist in identifying the entrance to this channel. If a vessel is bound for Maintirano, a lookout must be kept for Surprise Shoal.

The S channel, access to which is more difficult, lies E of Purdy Sand, then between Nosy Lava and Banc Simpson, when course must be altered NNW to pass W of Nosy Maroantaly and into the S approaches to Maintirano.

Cap Bepoaka (Tanjona Mandatsakora) is a steep cliff, with uniformly flat ground in the vicinity, though a short distance S the land rises slightly to two flat hills; when seen from the N, it appears dark against the background. The reddish-white color of the cape makes it conspicuous in the sunlight.

A conical sand dune, 19.2m high, rises about 3 miles S of Cap Bepoaka and about 0.5 mile inland. A large white dune, 21m high, rises about 3 miles farther S, and a large gray dune, 24m high, rises about 4.5 miles farther in the same direction. This gray sand dune is a mark useful to vessels proceeding to the roadstead off Maintirano; it rises about 4 miles N of the town.

Maintirano (18° 04'S., 44° 01'E.)

World Port Index No. 47420

12.7 Maintirano is very small port and consists of a town and an open roadstead.

Winds—Weather.—The roadstead is recommended only in good weather. It is generally calm in the morning, but winds from the S rise in the afternoon and make communications difficult.

Tides—Currents.—The tidal currents in the vicinity off the roadstead off Maintirano set generally N at velocities of 1.5 to 2 knots at springs. A current, often strong, sets E toward Banc du Nord.

Off **Maintirandmaty** (18° 10'S., 44° 02'E.), the outgoing current attains a velocity of about 0.5 knot at half tide, and then sets SW; the incoming current attains about the same velocity a little before half tide, and then sets E.

Depths—Limitations.—The least depth in Passe du Nord is 4.5m; the least depth in Passe du Sud is 8.2m. It was reported (1970) that a shoal, with a depth of 1.6m, lies about 3.7 miles NNW of the lighthouse at Maintirano.

Aspect.—The most conspicuous objects in Maintirano are the customhouse, a white building with a red roof; the lighthouse; the Residency; and the flagmast. A wreck, which covers and uncovers, lies almost 1 mile WSW of the flagmast. From Passe Du Nord, only the lantern of the light tower can be seen above the trees. Sarodrano Beacon stands on the coast about 6.8 miles S of Maintirano. The beacon is conspicuous, particularly in the afternoon.

Signals.—There is a signal station situated at Maintirano.

Anchorage.—Large vessels anchor approximately 3.5 miles SW of the town, in 9 to 11m, mud bottom. In bad weather, the anchorages in Iles Barren and in the vicinity of Banc du Nord are preferable.

Good anchorage, in 18m, can be obtained 0.5 mile NE of Banc du Nord; it is well-sheltered from the heavy SW swell.

Directions.—It is better to arrive off Maintirano in the afternoon, as objects on the coast are then easier to make out; it is not advisable to arrive at or leave the roadstead off Maintirano at night.

Vessels bound from the N and W for the roadstead off Maintirano should pass S of Banc de l'Quest and N of Banc de l'Emile-Heloise, Bancs du Vaudreuil, and Banc Bayfield.

Vessels capable of safely passing over a least depth of 4.5m can proceed through Passe du Nord by steering 156° for the signal mast near Maintirano. When a position has been reached from which the large gray sand dune about 4 miles N of the town bears 047°, course should be altered to 194°, which leads to the anchorage area.

Vessels can proceed through Passe du Sud from a position SE of Banc du Nord by steering 117° for Sarodrano Beacon to a position from which the signal mast bears 042°. A course of 042° from this position should be followed to a position from which the beacon bears 146°, course should then be changed to 000° for the anchorage area.

Maintirano to Morondava

12.8 Maintiranomaty (18° 10'S., 44° 02'E.) is a small town situated about 6 miles S of Maintirano. Anchorage can be taken in good weather off Maintiranomaty, in 10m; small vessels can anchor in 6m. When the high seas of other than good weather are met with, it is better to take shelter in the anchorage off Nosy Maroantaly or in that off Nosy Lava.

Cap Kimby (Tonjona Kimby) (18° 53'S., 44° 15'E.) shows a dark mass marked with several white patches.

The **Riviere Manambolo** (19° 03'S., 44° 15'E.) is often called the Behanjavilo Mouth. A military station stands about midway between the N and S outlets of the Riviere Manambolo. Anchorage has been taken off the N outlet of the Riviere Manambolo in a position from which the military station bore 114°, the middle of Behanjavilo Mouth bore 055°, and a clump of coconut trees bore 140°. The depth was 7.9m and the vessel was 2 miles outside the breakers.

Soahazo (19° 20'S., 44° 24'E.) is a town marked by a building with a zinc roof and a lookout station that shows above the trees. Anchorage has been taken off Soahazo, in 9m, in a position with the lookout station bearing 075°. Ilot Indien lies on the S side of the mouth of the Riviere Tsiribihina. Huts on Ilot Indien are a mark for the delta.

Anchorage can be taken off the delta. Small vessels can anchor W of Tsimanandrafozana, 2 miles offshore or 1 mile from the breakers, in depths of 5 to 7m. For larger vessels, there is good holding ground farther seaward in depths from 13 to 22m, with the clump of coconut palms 0.5 mile S of Tsimanandrafozana, bearing between 060° and 065°.

A vessel anchored in a position with the clump of coconut trees bearing 108°, and subsequently in a position from which the trees bore 122°, in 10m. In the latter position, the vessel was only 0.2 mile from the edge of the bank.

The Riviere Kerindy flows into the sea through an outlet lying about 10 miles SSE of Ilot Indien.

The village of Bosy stands on the S side of the river just within the outlet. Anchorage has been taken in a position about 1 mile WNW of the village, in 7m.

Numerous banks, reefs, and shoals lie off the coast between Soahazo and the outlet of the Riviere Morondava (20° 20'S., 44° 15'E.). Shoals and dangers other than those discovered probably exist, and the area should be navigated with caution.

It is said that schools of fish frequenting the shoal areas create observable eddies in the water, and that flights of birds pursuing the fish are indications of such shoal areas.

Morondava (20° 17'S., 44° 18'E.)

World Port Index No. 47430

12.9 Morondava is situated on the W coast of Madagascar, on Nosy Miandroka. The port is very small and consists of a town and an open roadstead where ocean-going vessels can anchor.

Tides—Cur rents.—At the anchorage off Morondava, the tidal current is slack about 1 hour after HW and LW. The flood current sets N, attaining a velocity of about 0.8 knot at springs 1 hour before HW; the ebb current sets SW, attaining a velocity of about 0.5 knot 1 hour before LW. At neaps, the currents are weak and variable and set sometimes N, sometimes S, at a velocity of 0.25 knot.

Southwest winds cause a NE surface current, which attains a velocity of 1 knot, and continues for several days after these winds have ceased to blow.

The tidal currents increase in strength toward the delta of the Riviere Tsiribihina (19° 48'S., 44° 24'E.).

Aspect.—The principal landmarks in Morondava and its vicinity are a water tower, 29m high, from which a light is exhibited; two aluminum-colored tanks, near the middle of the town, standing about 0.5 mile W of the water tower; Betaolampia Light, standing 8 miles SSW of the water tower; and the anchorage beacons, described below.

Two range beacons stand 0.2 mile apart, with the rear beacon standing about the same distance N of the water tower; in line bearing about 129.5°, the beacons lead to the N anchorage. A beacon, 6.1m high, stands near the coast 0.7 mile W of the water tower and in line with it bearing 080°, provides an anchorage mark.

Two range beacons stand near the coast, 1.7 miles SW of the water tower. The front beacon is 4m high and the rear is 13.1m high; in range bearing 132°, these beacons lead to the S anchorage.

Pilotage.—Pilotage is not available at Morondava.

Anchorage.—Anchorage can be taken, in 6.7 to 9.7m, mud and sand, about 1 mile from shore, on the 129.5° range. Mariners are cautioned that a heavy swell often occurs in the roadstead.

Anchorage can be taken, in 10 to 10.9m, at the intersection of the 132° range and the 080° range.

Anchorage can also be taken in a position abreast of Lovobe. The holding ground is good; the sea is usually not as high as in the position N of the light, and boats can land without difficulty. The position is inconvenient for communicating with Morondava.

Directions.—Vessels proceeding to the roadstead should give the coast a good berth until some of the marks for the area have been identified. A good approach to the roadstead is with Morondava Light bearing 102°.

Morondava to Morombe

12.10 Cap Ankarana (Tanjon Ankarana) (20° 29'S., 44° 09'E.) is a white sandy formation. Pointe Andriambe, a short distance S of the cape, is black and rocky, and appears from some directions as an islet. Pointe Ambatomisiotaka (Lohtanjon Ambatomisiotaka), about 9 miles S of Cap Ankarana, is a conspicuous projection.

Belo-Sur-Mer (20° 45'S., 44° 01'E.) (World Port Index No. 47440) is situated 7 miles SW of Lohtanjon Ambatomisiotaka, on the outer N side of the estuary of the Riviere de Belo. The port is very small and consists of a village and an open roadstead.

Tides—Curr ents.—Off the estuary of the Riviere de Belo, the tidal current is slack at LW. The flood current, which sets ENE, attains a maximum velocity of about 0.8 knot, 1 hour before HW; the ebb current attains a maximum velocity of 0.25 knot at half tide, when it sets NNW.

Aspect.—Belo-sur-Mer can be identified at a distance by a conspicuous clump of tall trees and by a white chapel.

Anchorage.—Anchorage can be obtained in convenient depths off Belo-sur-Mer, with the white chapel bearing 165°.

Caution.—Numerous sandbanks, some of them drying and all of them subject to shifting, lie off the entrance of the estuary. Vessels anchor off the entrance seaward of the banks.

12.11 Anchorage can be obtained E of **Nosy Andriangory** (20° 50'S., 43° 45'E.). In the recommended anchorage position, the N extremity of the island bears 270° and the S extremity bears 232°. The depths in this position are 18.3m and the bottom, of sand and shells, is moderately good holding ground. The island affords only moderate shelter from heavy seas from the W and SW, and the anchorage should be regarded as desirable only in good weather. This anchorage should be approached by way of the channel S of the islands. Note that Banc du Vaudreuil lies in the W part of this channel.

In the vicinity of **Nosy Andriamitaroka** (21° 04'S., 43° 41'E.), the flood current sets SE at a velocity of 0.5 knot; the ebb current sets W at the same velocity.

Anchorage can be taken in a position from which the N extremity of Nosy Andriamitaroka bears 280° and the S extremity bears 254°. The depth in this position, which is about 0.8 mile E of the island, is 16.4m; there is shelter from W and SW winds. This anchorage should be approached by way of the channel N of the island.

Ankoba (21° 07'S., 43° 52'E.) is a small village. A conspicuous white sand dune rises on the coast 5 miles SSW of Ankoba. Anchorage can be taken off Ankoba, in 6 to 7m, in positions 1 mile and 1.5 miles offshore. A vessel anchored here is not sheltered from seaward, but the sea is rarely very heavy.

Mouillage d'Ampasilva is 15 miles wide between Ankoba and Pointe Marohata (21° 17'S., 43° 36'E.). The village of Andranopasy stands on the shore at the head of the bay. Vessels can proceed to an anchorage position among the sandbanks lying off the village after passing over a shoal with a depth of 7.9m.

In Mouillage d'Ampasilava, the incoming current sets E from 3 hours before to about 3 hours after HW, attaining its maximum velocity of 0.75 knot about 1 hour 30 minutes before HW. The outgoing current, which runs from the other half of

the tidal cycle, attains its maximum velocity of 0.5 knot at the time of LW.

Anchorage can be taken, in 8m, good holding ground, with the flagpole in the village of Andranopasy bearing 158° and distant 3 miles.

During strong W winds, anchorage should be taken E of Nosy Andrianmitaroka rather than in the above position or at least in a position farther seaward, but on the same bearing, in greater depths where the seas are less steep.

Small vessels can proceed closer to the shore on the 158° bearing and anchor in 6m. The approach to Mouillage d'Ampasilava can be made from the N by way of the inshore route or from the W by passing N of Nosy Andrianmitaroka.

Caution.—Between Morondava and **Mouillage d'Ampasilava** (21° 15'S., 43° 43'E.), the inshore route is very difficult, and care should be taken as there are many dangers. The discharge from rivers often causes discolored patches of water, and whereas banks and shoals in this vicinity rarely cause discoloration of the water, all such discolorations should be regarded as dangerous. All vessels, unless small and with local knowledge, should keep W of the off-lying dangers.

Ambohibe (21° 21'S., 43° 31'E.) is a village with a mission, a chapel with red roofs, and several buildings that are useful landmarks.

Morombe (21° 45'S., 43° 22'E.)

[World Port Index No. 47450](#)

12.12 Morombe is situated close NE of Cap Morombe, midway between Pointe Andefitra and Cap Tsingilofilo (Helodrano Tsingilofilo) SSW. The port is very small and consist of a town and an open roadstead.

Tides—Curr ents.—The MHW interval at Morombe is 6 hours and 00 minutes; spring tides rise 3.8m and neap tides rise 2.5m.

The N current begins 3 hours before HW by the shore and continues until 3 hours after HW, when the S current begins. The tidal currents are strong in Passe du Sud; their direction may vary on either side of the range line. In the channels the current is slack at the times of HW and LW.

At the anchorage off Cap Morombe, at springs, the flood current has been observed to set SSW, attaining a maximum velocity of 1.75 knots about 1 hour before HW, and the ebb current to set ENE, attaining a maximum velocity of 1.25 knots about 2 hours before LW.

Depths—Limitations.—Vessels drawing 7.9m may proceed through Passe du Sud toward Cap Morombe. The least depth in the route through Passe du Nord to Town Anchorage is 6.1m.

Aspect.—A ridge of hills, from 1 to 3 miles S of Pointe Andefitra, attains an elevation of 45m and can be identified by its whitish jagged cliffs, with black patches.

Cap Morombe rises to a sand dune, backed by a ridge of low hills.

The courthouse, with a conspicuous red front, stands on the coast 0.4 mile NE of Cap Morombe.

Vessels approaching from the N usually first sight the high sand hills of Pointe Andefitra, and to the S of these hills, the

range beacon on Cap Morombe. A beacon stands 0.5 mile S of the courthouse.

Range lights are occasionally exhibited on Cap Morombe; the lights are in line bearing 133°.

A beacon stands on the SW end of Nosy Be, and is the front mark of a range line for an anchorage; the rear range mark is on the edge of the reef, 0.2 mile NNW.

A beacon stands nearly 1.5 miles ENE of Nosy Lava Light and on the reef which extends from the islet.

Passe du Sud is marked by Buoy MB1, on the W side, and by Buoy MB2, on the E side; both are moored 0.6 mile SE of the beacons on Nosy Be. Buoy MB4, moored 0.8 mile farther SE, marks a depth of 4m on the E side of the fairway leading to the principal anchorage.

A pipeline extends 0.2 mile NW from tanks on the coast, close NE of the front range light; there are two mooring buoys near the end of the pipeline.

Signals.—There is a signal station at Morombe.

Anchorage.—The anchorage area, known locally as Cape Anchorage, lies WNW of Cap Morombe. In the recommended position the beacons on Nosy Be are in line bearing 345°, and the front range beacon on Cap Marombe is in line bearing 097° with the beacon E of it. This is the only anchorage position in the harbor available at any stage of the tide to vessels drawing more than 7.9m. Care must be taken not to anchor in positions S of the parallel of the cape.

Town Anchorage is accessible only with a flood tide. In the recommended anchorage position the depth is about 6.4m, and the Residence bears 133° and Pointe Andefitra bears 044°.

Both anchorages afford secure shelter and good holding ground. Strong SW winds in the afternoon raise a choppy sea.

Between Cap Tsingilofilo (Helodrano Tsingilofilo) and Pointe Lamboharana (Lohatanjona Bevory) a range of mountains in the interior is divided by a large opening with perpendicular sides; the formation is a useful mark.

Directions.—Vessels proceeding toward Morombe and places in the vicinity should not depend upon marks on the coast in making a landfall. The islands are difficult to distinguish from seaward, but the lighthouse on the summit of Nosy Lava is a useful mark.

Vessels approaching from the S should pass W of Recif Morrisson (21° 48'S., 43° 12'E.) and W of the reef N of it. Note that these reefs are not always marked by breakers and special care is necessary in their vicinity. In using Passe Sud, a vessel must keep W of the off-lying dangers until the light beacons on Cape Morombe are in line 133°.

A course of 133°, with the light beacons in line, should then be steered through the fairway of Passe Sud. When the range beacons on Nosy Be are in line bearing 345°, course should be changed so as to keep this range astern. This course leads to the anchorage.

Vessels may proceed through Passe Nord by making good a course of 129° so as to pass about 1 mile NE of Nosindolo and about 1.6 miles SW of Nosy Andramona. When a position has been reached from which the front beacon of the range beacons on Cap Morombe bears 186°, a course of 186° can be steered for the beacon to a position about 1.8 miles from the cape. The least depth passed over on this portion is 6.1m.

Cape Anchorage can then be reached by way of Passe Sud by following the directions already given to a position from

which Nosy Trozona bears 275° and is in line with the S extremity of Nosy Lava. A course of 095° should then be steered, keeping this range astern, toward the red-roofed building of the Norwegian Mission. When Pointe Andefitra (21° 39'S., 434° 25'E.) bears 044°, it should be steered for on that bearing, and anchorage taken when the Residence bears 133°.

Caution.—The approach toward Cap Morombe is difficult because of the off-lying dangers and lack of useful marks. Many of the islands in the vicinity are difficult to distinguish from seaward.

Tetes de Nosindolo, a coral shoal with a least depth of 6.7m, lies 3 miles WSW of Nosy Andramona.

L'Arete, a coral shoal with a least depth of 2.1m, lies 4 miles NW of Morombe.

Nosy Tsipoy, an islet 1.5 miles S of Nosy Trozona, has several trees on it. A large rock, 1.2 miles SSE of Nosy Tsipoy, serves to mark the E edge of the reef extending N from Cap Tsingilofilo.

Nosy Ratafanika, 18m high, lying 2.7 miles S of Nosy Tsipoy, is rocky and wooded; there are several islets and rocks between it and Cap Tsingilofilo.

Morombe to Toliara

12.13 Cap Saint Vincent (Tanjona Andefitra) (21° 57'S., 43° 16'E.) is marked by two conspicuous dunes separated from one another by a distance of about 1 mile; the N dune is pointed and 11.9m high.

Nosy Andrahombava (Nosy Andranombala), rising to a conspicuous sandhill, 10.7m high, and covered by bushes, makes a good landmark.

There is anchorage E of Nosy Andranombava, 0.3 mile offshore, in 16m, sand and shells, good holding ground, with the N extremity of the islet bearing 294° and the S extremity bearing 243°; it is well-sheltered from the W swell. A vessel approaching this anchorage should pass between Recif Rogier and Nosy Andranombala, or pass S of Harandrika Parson (Recif Parson).

Pointe Andavadoaka is marked by a large black perforated rock. A cairn on the summit of a hill, about 1.5 miles N of the point, is conspicuous.

12.14 Nosy Hao (22° 05'S., 43° 11'E.) does not stand out clearly when viewed against the coast. A reef extends 1.7 miles S from the islet.

Anchorage can be obtained 0.6 mile E of Nosy Hao, in from 11 to 15m, fine sand and shells, good holding ground, with the N extremity of the islet bearing 325° and the S extremity bearing 245°.

The anchorage is sheltered from the W swell, but is exposed S and the sea from that direction is often heavy; in such circumstances, the anchorage off Nosy Andrahombava (Nosy Andranombala) is preferable.

The anchorage off Nosy Hao can be approached, by a vessel coming from the N, between Recif Rogier and Nosy Andranombala, and then on a S course.

Baie de Fanemotra is entered between **Pointe Lamboharana** (22° 12'S., 43° 14'E.) and Pointe Antsamotra, 1

mile SSE, and opens out into a basin which mostly dries; the entrance is shallow and narrowed by reefs.

Pointe Lamboharana is moderately high, with a conspicuous little peak at its S extremity. Pointe Antsamotra consists of a white cliff, S of which rise some bare hills.

Baie de Fanemotra affords sheltered anchorage to small vessels with local knowledge, in 5m, 0.9 mile NE of Pointe Antsamotra, but the swinging room is limited.

12.15 The Riviere Manombo (22° 58'S., 43° 28'E.) flows into the sea. The village of Manombo stands on the NW side of the river mouth and is visible from some distance seaward; N of it is a temple, with a red roof, and a church.

On Colline Ambohibe, NE of the mouth of the Riviere Manombo, overlooking the village, is an old lookout station which serves as a landmark.

There is good weather anchorage off the mouth of the Riviere Manombo, in 7 to 8m, sand, with good holding ground. A vessel of moderate size has anchored 1.7 miles offshore and 0.6 mile from the coastal reef, in 29m, with the temple near Manombo bearing 044°.

Pointe Tony (23° 00'S., 43° 28'E.) has a conspicuous hill, with sharply defined steps, that shows above the trees; the hill rises about 1 mile N of the point. This hill is sometimes called Butte de Tony.

12.16 Baie de Ranobe (Helodrano Ranobe) lies within the barrier reef between Pointe Tony and a point 10 miles SE. It is the best anchorage along this coast for a considerable distance. At HW, a considerable sea is raised at the anchorage during SW winds.

Tides—Currents.—The tidal currents are strong in Passe Fanandomotra, with strong eddies, but are weak within Baie de Ranobe, where the velocity does not exceed about 0.8 knot. The flood current sets N, and attains its maximum velocity at half tide, when it starts to decrease, but runs until 1 hour after HW.

The ebb current also attains its maximum velocity at half tide and sets S, ceasing at LW.

Depths—Limitations.—Passe Fanandomotra has a navigable width of 0.2 mile and a least depth of 7m.

Aspect.—A hill of remarkable shape rises from the SE entrance point of the bay. A conspicuous casuarina tree stands on a sandhill, on the shore of the bay, in a position about 5.5 miles SE of Pointe Tony.

A beacon stands on the shore of the bay. This beacon, bearing 040° and in line with the fall of Manombo Hill, leads through Passe Fanandomotra.

Anchorage.—In the position in Baie de Ranobe recommended for ocean-going vessels for anchoring, Butte de Tony bears 339° and the conspicuous casuarina tree on the sandhill bears 057°. The depth in this position is 10m and the bottom is mud.

Directions.—The beacon and the hill mentioned above are at some distance from the outer part of Passe Fanandomotra, so that considerable reliance must be placed on navigation by eye and by use of soundings.

The best time for entering, having regard to the position of the sun for seeing the reefs, is about 1 hour before LW, and for leaving, at about HW.

Caution.—Baie de Ranobe is encumbered by coral reefs, which even at HW, are easily seen by the discoloration of the water.

Toliara (Tulear) (23° 22'S., 43° 40'E.)

World Port Index No. 47460

12.17 Toliara (Tulear) is situated on the SW coast of Madagascar. The port is very small and consists of a town and a secure natural harbor sheltered by Le Grand Recif.

Winds—Weather.—Southwest winds prevail all year round. When the winds freshen in the afternoon from 1200 to 1900, landing in boats becomes difficult, as elsewhere along this coast. The rainy season in this region is from November to March.

Tides—Currents.—The incoming tidal current sets SE. During the dry season, at springs, the flood current sets SE through Passe du Nord, and NE through Passe du Sud, with the currents meeting off Pointe Kilibe (23° 26'S., 43° 44'E.).

The reverse occurs during the ebb current and an eddy may be experienced in Passe du Nord, setting SE close inshore between Banc de Nosy Vato (23° 22'S., 43° 39'E.). Off Mahavatsy Pierhead, the tidal currents are weak. The currents conform generally to the direction of the main fairway, except when the reef is covered; cross sets may then be experienced.

The tidal currents are strongest off the N end of Le Grand Recif, where at springs they attain a velocity of 2 knots.

The tidal currents at the anchorages are not felt as much as those described above; they attain a velocity of 1.25 knots at springs.

Depths—Limitations.—The fairway leading through Passe du Nord has a least depth of 12.8m, mud. It is difficult to distinguish in bad weather, and care must be taken not to confuse it with the mouth of the Riviere Fiherenana, 1.5 miles N of the fairway. Passe du Sud has a least depth of 12.8m in the fairway. This channel passes close NW of a shoal, with a depth of 8.7m, lying 0.6 mile W of Nosy Tofara (23° 31'S., 43° 43'E.).

Five anchor berths, in depths of 6 to 12m, lie W and SW of Pointe Mahavatsy.

Banc Mareana which dries, extends 1.5 miles offshore between **Pointe Befotaka** (23° 24'S., 43° 42'E.) and Pointe Kilibe, about 2.5 miles SE. Roche Microbe, on the E side of the fairway 2.2 miles NW of **Pointe Sarodrano** (23° 30'S., 43° 44'E.), dries 0.6m. Nosy Tafara, a reef which dries 0.6m, lies midway between the S end of Ilay Harandriaka Lehibe (Le Grand Recif) and Pointe Sarodrano, 2.5 miles E.

Aspect.—The gap between the hills, indicating the valley of the Riviere Fiherenana, can be identified by a vessel coming from the N. The most conspicuous object first sighted when Toliara is approached from the SW is Mont Maina (La Table), with a flat summit 163.7m high, 8 miles ESE of Pointe Anosy. As Toliara is neared, the water tower in the middle of the town is first seen, then the radio masts on the E side of the town, and then the Norwegian Church, easily identified by its two square towers and red roof. There is another water tower near the airfield 4 miles SE of the town. Pointe Barn Hill (23° 33'S., 43° 45'E.) is 61m high and consists of white limestone cliffs, which are conspicuous when in sunlight.

Mahavatsy Beacon, 14m high, stands on the coast 1.5 miles ESE of Pointe Anosy. The beacon is difficult to see in the morning, but a tank farm nearby helps to identify it.

Beacon E stands on the coastal reef 0.4 mile W of the root of Mahavatsy Pier. Buoy TU2 and Buoy TU4, which mark the coastal bank on the NE side of the fairway, are moored 1.2 miles NW and 0.1 mile SW, respectively, of Pointe Anosy.

Pilotage.—Pilotage is compulsory. It has been reported (1996) that the port captain and the pilot can be contacted on VHF channel 16.

Directions.—It is advisable to approach Passe du Nord during the morning; in the afternoon the SW wind blows up the sand, and one of the most useful marks, Mont Mahinia, is often not visible.

Vessels with drafts up to 10m may safely anchor in the harbor; the jetty has a maximum safe draft of 9.3m alongside.

During bad weather, the entrance to Passe du Nord is difficult to distinguish, and care must be taken to avoid confusing it with an indentation N of Pointe Anosy. To avoid this confusion, it is advisable to identify Ilay Harandriaka Lehibe S of the entrance on the parallel of Mont Mahinia, and then to proceed N until the entrance to the pass can be made out.

Passe du Nord should be entered by keeping the leading lights near Pointe Anosy in line bearing 114°. Maintain this course until Beacon C and Beacon D are in line bearing 148°. This range should be followed to a position from which Mahavatsy Beacon bears 088° and is in line with Beacon E. This range leads to an anchorage position.

Vessels proceeding to the inner anchorage position follow the directions just given to the position from which Mahavatsy Beacon bears 088° and is in line with Beacon E. From this position a course of 112° should be steered to round the SE extremity of Banc de Mahavatsy, on which course the vessel will pass between the bank and the 4.9m patch about 0.1 mile SE. After rounding the bank, a course of 043°, with Beacon E in line with the E radio mast, should be steered to the inner anchorage position.

Passe du Sud should be approached by steering 039° for Mont Mahinia to a position from which Pointe Sarodrano bears 100°. Course should then be changed to 357°, which leads between Ilay Harandriaka Lehibe and Roche Microbe. Note that Passe du Sud should be attempted only by vessels with local knowledge because of the numerous shoal heads and patches.

Passe du Sud is recommended only to vessels with local knowledge.

Anchorage.—The anchorages in Rade de Toliara are safe at all season, but a choppy sea is often experienced in the afternoon. Five anchor berths, in from 6 to 12m, mud or sand, lie W and SW of Pointe Mahavatsy.

A vessel awaiting instructions from the harbor master can anchor temporarily, with Mahavatsy Beacon in line with Beacon E, bearing about 088°, and the Norwegian Church bearing 053°, in 12.8m, good holding ground; vessels are prohibited from anchoring N of the alignment.

Small vessels with local knowledge, with a draft not exceeding 4.9m, can obtain anchorage nearer the town, with ample swinging room, E of the S end of Banc de Mahavatsy, in 6 to 7m. A vessel making this anchorage should pass between

Buoy No. 3 and Buoy TU6 or between Buoy No. 5 and Buoy TU8, and anchor with Beacon E in line with the E radio mast, bearing 043°; and Pointe Anosy Rear Range Light bearing 318°; this berth is 0.2 mile W of Mahavatsy Pierhead. Approximately 1.8 miles from the above position, with Pointe Anosy Beacon still bearing 318°, is a stranded wreck, with the hull and masts clearly visible. Vessels should stay clear and not mistake the wreck for a vessel at anchor.

Caution.—Le Grand Recif (Ilay Harandriaka Lehibe), the N extremity of which lies 1.5 miles WNW of Pointe Anosy, extends parallel with the coast for 10 miles and dries.

Many shoal patches, with a least depth of 1.8m, lie in the channel between Le Grand Recif and the coastal reef.

Banc de Mahavatsy is a shallow spit extending 1.2 miles SE from Pointe Anosy.

Toliara to Cap Sainte-Marie

12.18 Helodrano Inantosony (Baie de Saint-Augustin) is entered between **Pointe Sarodrano** (23° 30'S., 43° 44'E.) and a point 6 miles SSW.

Tides—Curr ents.—Along the S side of Baie de Saint-Augustin, the flood current sets E at a velocity of 0.25 knot; the ebb current sets W at a velocity of 0.5 knot.

Depths—Limitations.—The depths in the bay are great, except within 1 mile of the shore.

Aspect.—The village of Solara (Saolary), standing on the S shore of the bay 2.5 miles WSW of Pointe Ampasimanoro, the S entrance point of the Riviere Onilahy, can be identified by a church at its W end. Rocher Tente, 4m high, lying close offshore 0.5 mile E of Soalary, is a white rectangular rock and is not easily seen. From Pointe Ampasimanoro, white cliffs which are conspicuous when in sunlight extend 1 mile WSW to a gap formed by the entrance of Lovokampy Valley. Two stone beacons stand 0.5 mile S of Rocher Tente; the beacons in line bear 171°.

Anchorage.—During the trade winds, from April to October, vessels should anchor with Pointe Ampasimanoro bearing 068° and on the alignment of the two stone beacons, bearing 171°, in 9.4m; or closer inshore, in 5.5m, with the church at the W end of Sadlary bearing 229°. At other seasons, vessels should anchor in 20m, with Pointe Ampasimanoro bearing 081° and Rocher Tente bearing 158°. There are often heavy rollers at this anchorage.

Small vessels with local knowledge can obtain more secure anchorage between November and March, within Passe du Sud at Toliara, between the reefs off Pointe Sarodrano.

Directions.—A vessel coming from the N and bound for Baie de Saint-Augustin, identify Mont Mahinia and the delta of the Riviere Fiherenana; then the white cliffs at the head of the bay can be seen.

From the S, the valley of the Riviere Onilahy, with the surrounding high land, is distinctive, as it is the first valley N of Cap Andriamamao (25° 00'S., 44° 05'E.).

Caution.—A narrow spit, with depths of less than 4.8m, extends nearly 0.8 mile SW from Pointe Barn Hill (23° 33'S., 43° 45'E.). A shoal, with a least depth of 12m, lies 3.5 miles W of Saolary and 1.2 miles offshore; the sea breaks on it in bad weather.

12.19 Nosy Ve (23° 39'S., 43° 36'E.), lying 2 miles NW of Lahatanjon' Anakao (Pointe Anakao), is a low-lying white sandy islet, covered with brushwood, with a clump of trees near its N end; there are the ruins of an old settlement on the islet.

The channel between Nosy Ve and the coast affords anchorage sheltered from winds between the S and W. The best berth is in 10.1m, sand and coral, moderate holding ground, with the N extremity of Nosy Ve bearing 253° and the SE extremity bearing 195°; a good scope of chain should be veered. Vessels at anchor are liable to swing continually because of changes in the wind and tidal currents, which sometimes cause the anchor to drag.

Nosy Ve lies on the E side of a reef, which is about 2.5 miles in extent, N and S. A coral bank, over which the sea breaks heavily in bad weather, extends 1.2 miles NNE from the N extremity of the reef. Mariners must beware of this reef at HW.

Anse Itampolo lies about 2 miles NE of **Pointe Angorotany** (Itampolo) (24° 43'S., 43° 55'E.), the S entrance point of Helodranon'i Salapaly (Baie de Salapaly). The cove can be identified by Colline Hatokaliotso, a rounded hill with gradual slopes in the second range of hills, which should not be confused with another rounded hill, with steep slopes, also in the second range, N of Anse Itampolo. This second range of hills disappears behind the first when the coast is approached.

Immediately N of a point on the S side of Anse Itampolo, an old military outpost, consisting of a two-storied building and a red house, stands on a sandhill. Several hundred meters N of the outpost, the sandhills decrease in elevation, and some clumps of trees, which in the morning look like boat's sails, border the coast. Several villages can be seen in the neighborhood.

A small vessel with local knowledge making the anchorage in Anse Itampolo should approach with the old outpost bearing 093°; after passing close to the coastal reef forming the S side of the cove, steer 140°, keeping within the shelter of the reef, and anchor with the outpost bearing 059°, distant 0.9 mile, in more than 9m. This anchorage is sheltered from wind and swell, except from between WSW and N, when it is dangerous to anchor here. Port d'Androka affords shelter and is situated close S of **Cap Adriamano** (25° 00'S., 44° 06'E.). The directions for entering and the anchorage are indicated on the chartlet.

Port Cruizer, at the NW end of Baie de Minirodo, is approached between the SE end of the coastal reef, which extends from Port d'Androka, and an isolated reef marked by breakers. Small vessels with local knowledge can steer for a white sandhill on the W point of the bay and anchor, in 7.9m, with the conspicuous fall of the sandhill bearing 315°, the S extremity of the coastal reef bearing 175°, and the isolated breakers bearing 107°. This anchorage is not sheltered from wind and swell between the SSE and SSW.

Toraka Toxer (Banc Toxer) (25° 12'S., 44° 13'E.) has a least depth of 2.5m. In good weather, the sea only breaks over this patch occasionally. Vessels coming from seaward should not approach the coast until Nosy Manitsa, 3.5 miles E of Banc Toxer, bears 135°.

Banc de l'Etoile fronts the coast from **Lohatanjona Fenambosy** (Pointe Fenambosy) (25° 15'S., 44° 21'E.) to Tanjon' i Vohimena (Cap Sainte-Marie). Vessels with local knowledge can pass over Banc de l'Etoile and anchor, if necessary, during offshore winds, in 26 to 29m, 2 or 3 miles offshore.

Tanjon' i Vohimena (Cap Sainte-Marie) (25° 35'S., 45° 08'E.) is [described in paragraph 10.42](#).

Recifs de l'Etoile (25° 21'S., 44° 18'E.) lie on the NW side of the bank; the sea only breaks over the N reef in bad water, but it always breaks over the S reef. It is advisable to give the reefs a

wide berth. In 1979, there was a conspicuous stranded wreck on the S end of Recifs de l'Etoile.

Caution.—Toraky Ny Kintana (Banc de l'Etoile) is imperfectly surveyed and mariners are advised to navigate with caution.

Anse Lavanono (25° 24'S., 44° 54'E.) lies NW of Cap Sainte-Marie. Anchorage is available with local knowledge. A vessel has obtained anchorage, sheltered from E winds and swell, in 12m, good holding ground of sand, with Cap Sainte-Marie bearing 135°, distant 2 miles.